

Customer No.: 31561
Application No.: 10/711,575
Docket No.: 10792-US-PA

REMARKS

Present Status of the Application

This is a full and timely response to the outstanding non-final Office Action mailed on February 23, 2005. The Office Action rejected claims 1-18 under 35 U.S.C. § 103(a) as being unpatentable over Glenn (USP 5,962,810) in view of Mostafazadeh et al (US Patent 5,783,870).

Claims 1-18 remain pending of which claims 1, 10 and 14 have been amended to more accurately describe the invention. It is believed that no new matter is added by way of these amendments made to the claims or otherwise to the application.

After carefully considering the remarks set forth in this Office Action and the cited references, it is however strongly believed that the cited references are deficient to adequately teach the claimed features as recited in the presently pending claims. The reasons that motivate the above position of the Applicant are discussed in detail hereafter, upon which reconsideration of the claims is most earnestly solicited.

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Discussion of Office Action Rejections

The Office Action rejected claims 1-18 under 35 U.S.C. 103(a) as being unpatentable over Glenn (U.S. Patent 5,962,810) in view of Mostafazadeh et al. (US Patent 5,783,870, Mostafazadeh hereinafter).

Applicants respectfully submit that Glenn in view of Mostafazadeh is legally deficient for the purpose of rendering claims 1, 10 and 14 unpatentable because the reference or references, taken alone or combined, fails to teach or suggest each and every element recited in the claims.

The present invention at least teaches, among other things, the outer contacts remain exposed on a surface of the chip which also serves as an external surface of the packaging unit. First of all, the alleged outer contacts of Glenn are not exposed on a surface of the chip. Instead, Glenn teaches that the polyimide vision cell 24 and other non-optical circuitry, which the Office alleges as equivalent to the outer contacts of the instant case, on the upper first surface 21 of the die are covered by a planar layer of transparent encapsulant 29 (col. 5, ln. 20-25, Fig. 1). Further, in the instant case, the surface of the chip where the outer contacts being exposed thereon is an external surface of the packaging unit. On the other hand, it is the encapsulant of Glenn that forms the top exterior surface of the package 10. In other words, the polyimide vision cell 24 and other non-optical circuitry of Glenn are not exposed on the exterior surface of the package.

Applicants also respectfully disagree with the Office's contention that Glenn teaches a chip packaging stack structure suitable for stacking one over another as in the instant case.

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Glenn specifically teaches using a transparent encapsulant to cover the vision cells or other light-sensitive circuitry to allow light of a selective frequency to illuminate the light sensitive circuitry of the die (see abstract). Therefore, one skilled in the art will not be considered forming a chip packaging stack structure by stacking the chip packaging structure of Glenn since stacking another chip packaging unit over the chip packaging unit of Glenn will definitely interfere with the light-sensitive function of the vision cell and destroy the purpose of Glenn's invention.

Mostafazadeh teaches stackable ball grid array packages. However, the die 46 is formed completely within the package 32 (col. 4, ln. 5, Fig. 4A). Therefore, the contacts 40 on the exterior surface of package are not the outer contacts on the chip. Accordingly, not only Mostafazadeh fails to teach or suggest the outer contacts remain exposed on a surface of the chip which also serves as an external surface of the packaging unit, Mostafazadeh fails in disclosing a plurality of solder balls connecting the lower contacts of one chip packaging units with the outer contacts on the chip surface of the other chip packaging unit.

Accordingly, even Mostafazadeh teaches chip package of stacked ball grid array, many features of the instant case are missing from the packaging unit of Mostafazadeh. Moreover, no motivation is provided by Glenn to stack the structure of Glenn; therefore, one skilled in the art will not consider obvious to use Mostafazadeh to modify Glenn to form a stack chip packaging structure. However, even if Glenn were combined with Mostafazadeh, the combination would still be legally deficient for the purpose of rendering the claim obvious for failing to disclose or suggest every element of the claimed invention.

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For at least these reasons, Applicants respectfully assert that claims 1, 10 and 14 patentably define over Glenn in view Mostafazadeh. Since claims 2-9, 11-13 and 15-18 are dependent claims which further define the invention recited in claims 1, 10 and 14, Applicant respectfully assert that these claims are also in condition for allowance. Therefore, reconsideration and withdrawal of these rejections are respectfully requested.

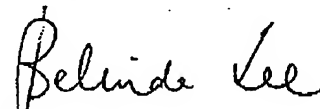
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CONCLUSION

For at least the foregoing reasons, it is believed that the presently pending claims 1-18 are in proper condition for allowance. If the Examiner believes that a telephone conference would expedite the examination of the above-identified patent application, the Examiner is invited to call the undersigned.

Respectfully submitted,

Date: May 5, 2005



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